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General Safety Services Division
Electrical Protection Branch

10808 - 99 Avenue, Edmonton, Alberta, Canada T5K 0G5 403/427-8260

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S T A T I S T I C S

RE: ELECTRICAL ACCIDENTS IN ALBERTA

1986 04 01 to 1987 03 31

ATTACHED IS:

(1) a summary of electrical accidents in Alberta investigated by the Electrical Protection Branch of Alberta and those investigated and reported to the Branch by Municipal Inspection Authorities from Calgary, Edmonton and Lethbridge during the period 1986 04 01 up to and including 1987 03 31.

Accidents in attachment (1) are chronologically listed in order of their occurrence and include only those where fatalities or injuries resulted.

(2) a summary of power line contacts reported to the Electrical Protection Branch during the period 1986 04 01 up to and including 1987 03 31.

Investigations were conducted when fatalities or injuries occurred and in other instances when warranted.

It is to be noted that the power line contacts involving fatalities or injuries are also indicated in attachment (1). Also, the underground power line contacts involve high voltage cables or equipment only.

W.E. SCOTVOLD
TECHNICAL ADMINISTRATOR
UTILITY SAFETY STANDARDS

ATTACHMENT (1)

ELECTRICAL ACCIDENTS INVESTIGATED BY THE ALBERTA ELECTRICAL PROTECTION BRANCH AND MUNICIPAL ELECTRICAL INSPECTION AUTHORITIES DURING THE PERIOD 1986 04 01 TO 1987 03 31

FATAL ACCIDENTS	OCCURRENCE
1986 05 29 Superintendent	Construction superintendent was electrocuted when a scaffold on a rubber tired wagon being moved contacted an 8 kV power line.
1986 06 08 Power lineman	Power lineman was electrocuted when the wrong end of a grounding jumper cable was removed from a 240 kV power line causing the jumper to become energized.
1986 06 29 Policeman	Policeman was electrocuted when an energized 14.4 kV downed conductor was contacted after a vehicle had hit and broken a power line pole.
1986 07 07 Field engineer	Field engineer was electrocuted when the derrick of a well logging truck was raised into a 13.8 kV power line.
1986 12 09 Truck driver	Truck driver was electrocuted when a tie down cable being thrown over a load contacted a 14.4 kV power line.

NONFATAL ACCIDENTS	OCCURRENCE
1986 03 05 Electrician	Journeyman electrician received an electrical shock and burns while working on a 347 V circuit.
1986 03 26 Worker	Abatoir employee received a severe electrical shock when he accidently contacted the probes of a hog stunner when it was energized.
1986 04 02 Electrician	Foreman of an electrical firm received an electrical shock and minor burns to the hand when an energized 277 V cable was cut. The alternate feed to the circuit had not been disconnected.

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NONFATAL ACCIDENTS	OCCURRENCE
1986 04 04 Electrician	Electrician received severe electrical burns to the hands and face when a fault occurred in a 600 V motor control centre being worked on.
1986 04 08 Electrician	Electrician received a minor electrical shock while working on an energized 120 V fixture. The victim fell off a ladder and received multiple bruises.
1986 04 10 Labourer	Labourer received a severe electrical shock and burns to the left hand and left foot when the winch cable of a crane contacted a 14.4 kV power line.
1986 04 15 Electrician	Electrician received electrical burns to the face and right arm when a fault occurred in a 13.8 kV sectionalizing switch.
1986 04 18 Farmer	Farmer received serious electrical shock and burns to both hands and right foot when a grain auger was pushed into a 14.4 kV power line.
1986 04 24 Electrician	Apprentice electrician received minor burns to the right arm when a fault occurred in a 600 V control panel while meter readings were being taken.
1986 04 28 Manager	Manager of an ice cream parlour received severe electrical shock and burns to the right hand while attempting to relocate electrical outlets without turning off the power.
1986 04 29 Electrician	First year apprentice electrician received an electrical burn to the right hand while working in a 480 V motor control centre.
1986 05 09 Mill Worker	Worker received minor burns to the hands when a fault occurred while working in a 400 A, 480 V switch.
1986 05 14 Worker	Worker received a minor electrical shock from a broken 120 V light fixture.

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NONFATAL ACCIDENTS	OCCURRENCE
1986 05 14 Power Lineman	Power lineman received severe electrical shock and burns to the right hand, arm and shoulder when an energized 8 kV downed power line conductor was contacted.
1986 05 14 Electrician	Electrician received electrical shock and burns to the left hand while working on a 347 V fluorescent fixture.
1986 05 14 Steel Erector	Steel erector received minor electrical shock when a crane contacted a 25 kV power line.
1986 05 29 Labourer	Labourer received serious electrical shock and burns to the hands and feet when a scaffold on a rubber tired wagon being moved contacted an 8 kV power line.
1986 05 29 Labourer	Labourer received serious electrical shock and burns to the hands and feet when a scaffold on a rubber tired wagon being moved contacted an 8 kV power line.
1986 06 02 Concrete finisher	Concrete finisher received serious burns to the hands and face when a 7.6 kV power cable was cut into while working in an electrical vault.
1986 06 29 Person	Person received severe electrical shock and burns to the left arm, chest and both feet when an energized 14.4 kV downed conductor was contacted after a vehicle had hit and broken a power line pole.
1986 07 04 Electrician	Electrician received a minor shock from a 120 V control circuit in an oilfield controller.
1986 07 08 Electrician	Electrician received burns to the hands and face when a fault occurred while a 480 V motor controller was being checked.

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NONFATAL ACCIDENTS	OCCURRENCE
1986 07 09 Appliance Repairman	Appliance repairman received minor burns to one hand while working on energized electrical equipment.
1986 07 09 Electrician	Electrician received minor burns to the hands and face while testing a 600 V controller.
1986 07 17 Electrician	Electrician received an electrical shock and burns to the hand while working on a 347 V circuit that had been inadvertently left on.
1986 07 20 Student	Student received a severe electrical shock, burns to the body and injuries from a fall when a metal conduit being use to check grain in a bin contacted a 14.4 kV power line.
1986 07 23 Mechanic	Mechanic received a minor shock and injuries from a fall after contacting 120 V conductors.
1986 07 23 Janitor	Janitor received an electrical shock and minor burns to the right hand when a vacuum cleaner cord cap was being removed from a receptacle.
1986 07 24 Electrician	Fourth year apprentice electrician received an electrical shock and injuries from a fall when a fish tape was pushed into energized 120 V electrical equipment.
1986 08 12 Labourer	Labourer received an electrical shock and serious burns when a branch of a tree being trimmed contacted a 14.4 kV power line.
1986 08 19 Labourer	Labourer received flash burns to the hands while attempting to use an electrical power tool that had a fault in it.
1986 08 25 Power Lineman	Power lineman received flash burns to both eyes when a tool being used in a 15 kV switching cubicle on energized components contacted a ground strap.

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NONFATAL ACCIDENTS	OCCURRENCE
1986 08 27 Steel Erector	Steel worker received an electrical shock and burns to the right hand and both feet when a winch cable contacted a 14.4 kV power line.
1986 09 02 Manager	Store manager received an electrical shock and burns to the body when a CB antenna being erected contacted a 14.4 kV power line.
1986 09 06 Slasher	Slasher received an electrical shock when a tree being cut contacted a 14.4 kV power line.
1986 09 09 Labourer	Labourer assisting a truck driver to deliver a grain bin received severe electrical shock and burns when a 14.4 kV power line was contacted from the top of the grain bin.
1986 09 19 Truck Driver	Truck driver received minor electrical shock when the truck box contacted a 14.4 kV power line.
1986 09 22 Labourer	Victim received severe electrical shock and burns to the feet when a tree being cut contacted an 8 kV power line.
1986 09 23 Truck Driver	Truck driver received minor electrical shock and burns to the hands and feet when the cable of a truck crane contacted a 13.8 kV power line.
1986 09 24 Electrician	Electrician received minor flash burns to the eyes while checking a 600 V control panel.
1986 09 24 Maintenance Man	Maintenance man received minor flash burns to the eyes while assisting an electrician checking a 600 V control panel.
1986 10 01 Welder	Welder received electrical shock and burns to the right hand and foot when a pipe being held contacted a 14.4 kV power line.

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NONFATAL ACCIDENTS	OCCURRENCE
1986 10 03 Labourer	Labourer received minor electrical shock when a power vise was touched where the power conductor on the supply cord had been connected to the ground terminal on the 120 V cord cap.
1986 10 07 Electrician	Electrician received flash burns to the face when a fault occurred in a 120/240 V panel being worked on.
1986 10 07 Production Line Worker	Production line worker received a minor electrical shock while attempting to use a damaged 480 V extension cord.
1986 10 07 Production Line Worker	Production line worker received a minor electrical shock while attempting to use a damaged 120 V extension cord.
1986 10 14 Electrician	Electrician received minor burns to the eyes, face and hands when a fault occurred within a 240 V test meter being used.
1986 10 15 Farmer	Farmer received severe electrical shock and burns to the hands and feet when a grain auger being moved contacted a 14.4 kV power line.
1986 10 15 Farmer	Farmer received severe electrical shock and burns to the hands and feet when a grain auger being moved contacted a 14.4 kV power line.
1986 10 22 Farmer	Farmer received severe electrical shock, serious burns and internal injuries from falling, when a 14.4 kV power line was contacted while an attempt was made to reconnect power to the farm at a transformer pole.
1986 10 23 Seismic Worker	Seismic worker received an electrical shock and burns when seismic detonator conductors contacted a 14.4 kV power line.
1986 10 23 Seismic Worker	Seismic worker received an electrical shock and burns when seismic detonator conductors contacted a 14.4 kV power line.

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NONFATAL ACCIDENTS	OCCURRENCE
1986 10 25 Paper Sorter	Paper sorter received electrical shock and serious burns to the hands, face and chest when an attempt was made to reverse the rotation of a 480 V, 3 phase motor by changing connections in the motor controller.
1986 10 27 Electrician	Electrician received serious burns to the hands and upper body when a fault occurred while new conductors were being installed in an energized 480 V switch.
1986 10 29 Student	Student received severe electrical shock when contact was made with a grounded machine and another machine where the ground pin had been broken off at the cord cap.
1986 11 01 Pilot	Hot air balloon pilot received burns to various parts of the body when the balloon basket contacted a 7.2 kV power line during a landing attempt.
1986 11 24 Foreman	Foreman of a gravel crushing operation received burns to both hands and face when a fault occurred during an attempt to reverse rotation on a 3 phase, 480 V motor.
1986 11 26 Electrician	Electrician received a minor shock and bruises from a fall after contacting an energized 347 V conductor.
1986 12 02 Truck Driver	Truck driver received a severe electrical shock and serious burns to the right hand and left foot when a bale elevator being loaded contacted a 14.4 kV power line.
1986 12 15 Electrician	Apprentice Electrician received a shock and serious burns to both hands when an energized 347 V conductor was contacted.
1987 01 19 Power Lineman	Apprentice power lineman received a severe electrical shock and serious burns from induction when a ground chain accidentally came off a 3 phase, 25 kV circuit being worked on.
1987 01 19 Electrician	Maintenance electrician received a severe electrical shock when a fault occurred in a 120 V test device.

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NONFATAL ACCIDENTS	OCCURRENCE
1987 01 22 Machinist	Machinist received minor burns to the face and one hand while attempting to reverse rotation of a 3 phase motor.
1987 01 22 Electrician	Electrician received a minor burn to the back of one hand while attempting to remove a 600 V welding cord cap from the receptacle.
1987 01 26 Electrician	Electrician received serious burns to the face and right hand when a fault occurred during an attempt to close a 480 V switch.
1987 03 06 Electrician	Electrician received serious burns to the hands and face while attempting to take voltage readings on a 30 A, 600 V switch.

LIVESTOCK FATALITIES	OCCURRENCE
1986 05 14	1 cow electrocuted from contacting a fallen 14.4 kV power line which occurred during a storm.
1986 05 26	3 cows electrocuted from contacting a fallen 8 kV power line which occurred when a pole broke.
1986 06 20	10 cattle electrocuted from contacting a broken 14.4 kV power line which occurred when a bull rubbed on a guy wire.
1986 07 18	2 calves electrocuted from faulty farm wiring.
1986 07 22	1 cow electrocuted from faulty farm wiring.
1986 09 22	1 bull electrocuted from contacting a fallen 14.4 kV power line which occurred when the pole top burnt off.

ATTACHMENT (2)

ELECTRICAL POWER LINE CONTACTS REPORTED TO THE ALBERTA ELECTRICAL PROTECTION BRANCH DURING THE PERIOD 1986 04 01 TO 1987 03 31

A total of 443 electrical power line contacts were reported to the Electrical Protection Branch during the period April 1, 1986 to March 31, 1987. The total includes 388 contacts with overhead power lines and 55 contacts with high voltage underground power cables.

Five fatalities and 26 injuries to persons resulted from these contacts. Following is a breakdown of the contacts, fatalities and injuries. The number of fatalities and serious injuries associated with each type of contact is noted in brackets in the margin.

F means fatality
S means serious injury

OVERHEAD POWER LINE CONTACTS

(2F)(4S) 106 by high equipment contacting lines when the equipment was being moved or handled;

(1F)(1S) 82 by vehicles or equipment contacting poles or guy wires resulting in damage to the conductors;

(3S) 80 by trees contacting lines during brushing or trimming;

(5S) 28 by lifting booms, lifting cables or loads being lifted contacting lines;

27 by highloads contacting lines when the loads were being moved;

19 by animals contacting low hanging lines;

12 by aircraft contacting lines;

10 by grain bins contacting lines when the bins were being moved;

(3S) 7 by grain augers contacting lines when the augers were being moved;

(2S) 2 by seizmic detonating conductors or shot wire contacting lines;

2 by guy wires contacting lines;

(1S) 1 by an unauthorized person contacting a transformer riser on a power line pole;

(1S) 1 by an antenna contacting a line when the antenna was being handled;

(1F) 1 by tie down cable contacting line when cable was thrown over load;

(1S) 1 by hot air balloon contacting line;

(1S) 1 by person contacting line with a piece of metal conduit being used to test grain in a bin;

(1S) 1 by worker contacting conductor from the top of a grain bin being moved under line;

1 by parachute contacting line;

1 by kite contacting line;

1 by debris contacting line during dynamiting operation;

1 by ceiling tie wire contacting Light Rail Transit catenary conductors;

(1F) 1 by power lineman removing wrong end of grounding jumper from conductor causing jumper to become energized;

(1S) 1 by grounding chain coming loose from conductor causing chain to become energized;

(1S) 1 by power lineman inadvertently contacting energized downed conductor;

UNDERGROUND POWER CABLE CONTACTS (HIGH VOLTAGE ONLY)

44 by excavating equipment contacting high voltage power cables;

10 by vehicles hitting padmount transformers or switching cubicles causing damage to or exposure of high voltage power cables;

(1S) 1 by worker contacting an energized power cable while cutting a duct in a vault;

FATALITIES RESULTING FROM CONTACTS WITH OVERHEAD POWER LINES

1 to person contacting an energized low hanging conductor that resulted when a vehicle hit and broke a power line pole;

1 to worker when a scaffold being relocated contacted overhead lines.

1 to worker when a tie down cable being thrown over load contacted line;

1 to operator when the derrick of a well logging service truck was raised into line;

1 to power lineman when the wrong end of a grounding jumper was removed from the line causing jumper to become energized.

INJURIES RESULTING FROM CONTACTS WITH OVERHEAD POWER LINES

5 to workers handling loads when loads or lifting equipment contacted lines;

4 to workers when high equipment contacted lines while the equipment was being moved or handled;

3 to workers handling grain augers when the augers contacted lines;

3 to workers contacting trees which contacted lines during brushing or trimming;

2 to workers attempting to remove seismic detonating cable from line;

1 to person handling antenna when antenna contacted line;

1 to person contacting low hanging conductor which resulted when vehicle hit and broke power pole;

1 to person contacting conductor while attempting to raise the neutral from the top of a grain bin being moved under line;

1 to person when riser on transformer pole was contacted while person was attempting to make an unauthorized connection;

1 to person when a metal conduit being used to test grain in a bin contacted line;

1 to person contacting conductor when hot air balloon contacted line;

1 to power lineman when a downed energized conductor was contacted;

1 to power lineman when grounding chain came loose from conductor and conductor became energized from induction.

INJURIES RESULTING FROM CONTACTS WITH UNDERGROUND POWER CABLES

1 to worker when energized power cable was contacted when a duct was being cut in a vault.

POWER LINE CONTACTS SUMMARY

Recorded periods are April 1 to March 31 of the following year.

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Contacts Reported	239	262	198	295	480	398	466	393	511	443
Overhead Contacts	206	186	156	251	420	359	415	355	442	338
Underground Contacts	33	76	*42	*44	*60	*39	*51	*38	*69	*55
Fatalities (O/H Contacts)	5	8	2	9	11	6	1	1	7	5
Fatalities (U/G Contacts)	0	0	0	0	0	0	0	0	0	0
Injuries (O/H Contacts)	29	39	31	44	32	12	16	20	33	25
Injuries (U/G Contacts)	0	3	0	1	**4	**2	0	0	0	1

* contacts reported involve high voltage cables or equipment only

** includes one injury which occurred on a low voltage cable